

# PATENT ABSTRACTS OF JAPAN

(11)Publication number : 62-069508

(43)Date of publication of application : 30.03.1987

---

(51)Int.Cl. H01L 21/203  
H01L 21/26  
// H01L 29/80

---

(21)Application number : 60-209753

(71)Applicant : SUMITOMO ELECTRIC IND LTD

(22)Date of filing : 20.09.1985

(72)Inventor : MATSUI YUICHI

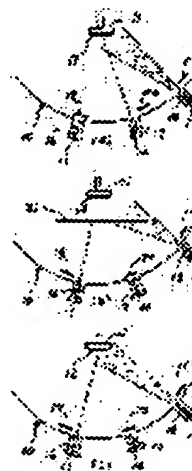
---

## (54) MANUFACTURE OF COMPOUND SEMICONDUCTOR DEVICE

### (57)Abstract:

**PURPOSE:** To form a flat layer interface with no recession nor projection at an atomic layer level by separating only excessive atoms such as isolated atoms and clusters on the topmost surface of a growth layer from the surface after coating the surface of a substrate with a raw material.

**CONSTITUTION:** A Ga molecular beam is evaporated from a raw material Ga 17 by opening a Ga cell shutter 20, As is evaporated from a raw material As 18 by opening an As cell shutter 21 and GaAs is grown on the surface of an InP substrate 12. The temperature of the substrate 12 is set at 400W500° C. After a main shutter 22 is closed, an In cell shutter 19 is opened and the shutter 20 is closed. Such a state is held for approx. 1min or longer. Then, only excessive Ga atoms on the topmost surface of a GaAs thin film layer formed on the substrate 12 is separated from the surface and a perfectly flat growth layer atom surface underneath is exposed. This forms a flat layer interface with no recession nor projection at an atom layer level.



---

## LEGAL STATUS

[Date of request for examination]

[Date of sending the examiner's decision of rejection]

[Kind of final disposal of application other than the examiner's decision of rejection or application converted registration]

[Date of final disposal for application]

[Patent number]

[Date of registration]

[Number of appeal against examiner's decision of rejection]

[Date of requesting appeal against examiner's decision of rejection]

[Date of extinction of right]